

Bare singulars and pseudo-incorporation in Western Armenian*

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Abstract This paper is concerned with the way the denotation of the bare singular and the process of Pseudo-Incorporation (PI) interact in Western Armenian (WA). We argue that bare singulars in WA unambiguously denote properties of kinds, thus differing significantly from languages like English and Turkish, where they are ambiguous between object-level and kind-level properties (Dayal 2004; Sağ 2019, 2021). Our argument comes from Pseudo-Incorporation. WA allows PI of [Num (CLF) N_{sg}] elements (covert plurals) which denote object-level properties. At the same time, PI-ed NPs (either bare singulars or covert plurals) accept only kind-level modification. This cannot be accounted by restricting PI to kind-denoting NPs (like in Turkish, Sağ (2021)), as object-level properties (i.e. covert plurals) are also PI-ed. We derive the pattern by building an analysis of PI where the bare singular is unambiguously kind-denoting.

Keywords: bare singulars, pseudo-incorporation, kind reference, Western Armenian

1 Introduction

This paper explores two intersecting issues concerning bare singulars: (1) their denotation; (2) the ways in which their denotation constrains, and is constrained by, Pseudo-Incorporation (PI). We explore these issues through the lens of Western Armenian (WA). Our empirical starting point is that there are two kinds of WA nominals that undergo Pseudo-Incorporation: bare singulars, and Numeral-Noun constructions of the form [Num N_{sg}], which we call ‘covert plurals’.

Interestingly, bare singulars exhibit restrictions in terms of adjectival modification: only kind-level adjectives can modify them. One way of accounting for this is by taking the bare singular to be ambiguous between an object-level and a kind-level denotation, but defining the process of Pseudo-Incorporation solely on kind-level entities. Such an account is pursued by Sağ (2019, 2021), who applies it

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to bare singular data from Turkish, as well as WA. We show that this line of analysis is not tenable for the WA case. The reason is that covert plurals are nominals that undergo Pseudo-Incorporation, but denote properties of object-level, not kind-level, individuals. This means that restricting the domain of Pseudo-Incorporation undergenerates in the WA case. Furthermore, covert plurals exhibit the same modification restrictions as bare singulars; but there is one twist: the restrictions go away when an overt classifier intervenes between the numeral and the noun.

To account for this complex empirical patterning, we propose to treat the bare singular in WA as denoting solely a property of kinds. The modification restrictions on bare singulars and covert plurals (without a classifier) are derived through the different ways in which a (sub)kind may be instantiated: in the case of $[VP N_{sg} V]$, when the verb is defined on object-level entities, the instantiation happens inside the VP via a rule of Derived Singular Kind Predication (DSKP, cf. DKP in Chierchia (1998)) which maps kinds to objects. In covert plurals without a classifier, the same shift from (sub)kinds to objects needs to be invoked because kinds cannot be counted (their atoms are not accessible); thus DSKP applies to allow access to countable units. DSKP is an operation that maps from (sub)kinds to objects, and is hence only applicable if an $[Adj N_{sg}]$ construction can easily be conceptualized as a subkind. In cases where N_{sg} has combined with an object-level adjective, the resulting subkind is non-well-established, and DSKP cannot apply without strong contextual support. Conversely, in covert plurals with a classifier, the classifier essentially lexicalizes the function that instantiates a (sub)kind, and DSKP need not be invoked. Thus, the constraint on the domain of application of DSKP is not activated, which results in the absence of modification restrictions in this case.

The rest of this paper is structured as follows: section 2 offers background on bare arguments, and their relation to kind reference and Pseudo-incorporation. Section 3 presents the WA data. Section 4 focuses on the analytical possibilities for the WA patterns, concluding that the only viable option is an analysis where the bare singular in WA is restricted to only properties of kinds, but the Pseudo-Incorporation mechanism remains unrestricted. Section 5 implements this analysis, and shows how it derives the WA patterns. Section 6 concludes.

2 Background

2.1 Kind Reference

As our focus is bare singulars, we give some background in this section on the theoretical issues that such bare arguments bring up, as well as on frameworks that have been developed to address these issues. Bare singulars give rise to two primary challenges: (1) what is the denotation of a bare singular; and (2) how does the

composition between a bare argument and a predicate differ from the composition between a full DP and a predicate.

Starting from the first question, and focusing for the time being on singulars in English, it has been observed that singulars can refer to both kinds, (1), and objects, (2):

- (1) a. The dinosaur is extinct
- b. Every/A/One dinosaur is extinct.
- (2) The dog/A dog came into the yard.

However, in episodic contexts, (3-a), and with distributive predicates, (3-b), the kind-level reading of singular definites is not available:

- (3) a. #The lion was jumping on the stage for an hour.
- b. #The lion came to this zoo from different regions.

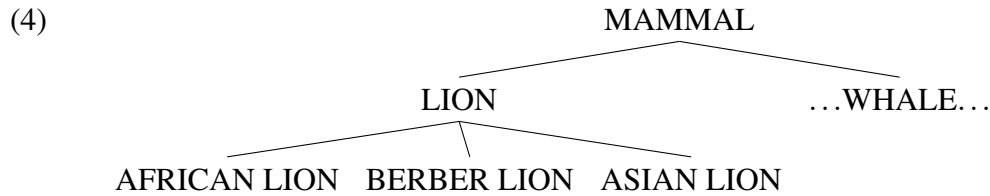
If we understand ‘lion’ as kind-referring in (3-a), then the sentence has a peculiar interpretation where the entire lion kind is jumping. The only available interpretation is that a specific lion was jumping. Similarly, combining ‘the lion’ with a distributive predicate in (3-b) leads to a peculiar interpretation where the entire-lion kind comes to the zoo from different regions.¹

Dayal (2004) proposes to account for these patterns by taking the bare singular to be ambiguous between an object-level denotation, a set of atoms, and a kind-level denotation, a set of (sub)kinds. The idea is that in case like (1-a), the definite determiner (formalized via *t*) combines with the version of ‘dinosaur’ that denotes a set of subkinds, and returns the unique kind-level individual that occupies that set (the entire dinosaur-kind in (1-a)). In (2), the determiner combines with the version of ‘dog’ that denotes a set of object-level dogs, and returns the unique contextually salient object level dog.

To account for the peculiarities in (3), Dayal takes singular kind terms to denote groups (in the sense of Landman (1989); Schwarzschild (1996); Chierchia (1998) also gives a similar treatment of singular definites although some of the details differ): that is, it is something that although conceptually plural, does not allow transparent access to the parts that make it up; rather it behaves like an atom that has parts, but is something over and above its parts.

Specifically, Dayal (2004) takes the bare singular in its kind-level reading to be able to refer in the domain of what she calls ‘taxonomic individuals’. What Dayal has in mind is a domain like the following:

¹ Note that under the object-level interpretation (3-b) is nonsensical as one lion cannot come from different regions.



Exactly which taxonomic entities and from what level of the taxonomic domain will find themselves in the denotation of a bare singular will depend on context. Consider the following example:

(5) The lion is extinct.

The definite determiner is well-defined only if its complement denotes a singleton set; so definiteness requires that ‘lion’ in (5) denote something like $[[\text{lion}]] = \{LION\}$. In such a case the relevant level of the taxonomic hierarchy looks like $U = \{LION, WHALE, DOG, \dots\}$. Thus, (5) ends up with the following truth conditions:

(6) $extinct'(1x(x \in \{LION\}))$, i.e. the taxonomic individual *LION* is extinct.

Now consider a sentence like:

(7) The African lion is extinct.

The idea is that now the relevant level of the taxonomic hierarchy will be the subkinds of lions. So $[[\text{lion}]]$ will be $\{LION, AFRICAN LION, BERBER LION\}$. $[[\text{African}]]$ will denote the property of African subkinds, i.e. $\{AFRICAN LION, AFRICAN RHINO, \dots\}$. $[[\text{lion}]]$ and $[[\text{African}]]$ will intersect via predicate modification (Heim & Kratzer 1998), yielding $\{AFRICAN LION\}$. Again this will combine with the definite determiner, and will eventually yield the following truth conditions:

(8) $extinct'(1x(x \in \{AFRICAN LION\}))$

As mentioned earlier, taxonomic individuals/singular kinds are taken to be atomic in the sense that while they have parts, they do not allow access to these parts, but rather behave as a compact whole. That is why it cannot combine with distributive predicates, (3-b). The same reasoning applies to (3-a): an episodic context demands access to the parts of the group, but since parts and groups are not transparently related, this is not possible.

Sağ (2019, 2021) introduces a *belong-to'* relation to talk about the entities that

are members of a singular kind:²

- (9) *belong – to*(y, x_k) is true iff y is a member of the kind x_k , where x_k is a singular kind and y is an object-level individual.

This relation is established between a group and its members. Nevertheless, it is meant to remain at the conceptual level, and not be established in the grammar via a dedicated type-shifter that takes a singular kind and returns the set of entities that are members of this kind. At the same time, Sağ argues that this relation is established in Turkish as part of some grammatical constructions (e.g. PI, see below), and we will end up using it as well to talk about the WA facts.

2.2 Pseudo-Incorporation

The other challenge that the bare singular brings up is how it differs from other arguments when it combines with a predicate. In a number of languages, bare singulars appear ‘weakened’ when compared to other nominals (see e.g. Dayal (2011) for Hindi, Öztürk (2009) for Turkish, Massam (2001) for Niuean a.o.): bare singulars in these languages stay adjacent to the verb, are number-neutral, take low scope with respect to operators like negation and cannot be case-marked (contrasting on these dimensions with full DP arguments) (see sections 3.1, 3.2 for illustrations of these properties in the context of WA).³ Bare singulars that exhibit these properties are said to undergo ‘Pseudo-Incorporation’ (PI) (Massam 2001).

It turns out that PI and the discussion on the denotation of the bare singular intersect in interesting ways. The main question is whether or not bare singulars can undergo PI both in the object-level and kind-level version. Dayal (2011) argues on the basis of data from Hindi and Hungarian (both languages where bare singulars PI) that PI is defined on sets of object-level entities (i.e. on the object-level denotation of the bare singular). The reason then that PI-ed nominals end up being number-neutral (and not strictly singular, as would be expected if the denotation of the bare singular in PI contexts is just a set of atoms) is either the existence of a pluractional operator (Laserson (1995)) which iterates the event denoted by the verb phrase (e.g. ‘book-reading’) or the habitual interpretation of imperfective aspect which presupposes a plurality of events (see Dayal (2011) for more details).

However, Sağ (2019, 2021) argues that this is not the right way to view PI in Turkish, where bare singulars also PI. The most important argument for our purposes is that PI-ing bare singulars in Turkish can only be modified by kind-level

² We cannot use \leq (Link (1983)) here because it is not defined on groups, but rather on sums.

³ There are other relevant properties here: inability to introduce a new discourse referent, inability to act as syntactic binders, and inability to be modified by relative clauses. See the above cited works for more details.

adjectives:

- (10) Turkish, (Sağ 2021: 5)
- a. Ali ev-e geldikten sonra, dinil/ bilimsel kitap
 Ali home-DAT having.come after religious/ scientific book
 oku-du.
 read-PST
 ‘After he came home, Ali read one or more religious/ scientific book’
- b. *Ali ev-e geldikten sonra, eski/ küçük kitap oku-du.
 Ali home-DAT having.come after old/ small book read-PST
 ‘After he came home, Ali read one or more small books’

If PI is defined on the object-level denotation of the bare singular this restriction is completely unexpected; in fact the opposite restriction is predicted whereby only object-level adjectives can modify a PI-ed singular. Taking PI to be defined on both object and kind-level denotations does not help either, as then there would be nothing to prevent the an object-level adjective to combine with the object-level denotation of the singular, and then the [Adj N] combination could undergo PI. Instead, Sağ (2021) proposes to define PI **solely on kind-level denotations**. While this solution works for the Turkish data, we will see that it cannot be extended to WA, as WA clearly allows PI of object-level denotations.

3 The Western Armenian Data

3.1 Bare Singulars

We now turn to the WA data and begin by showing that bare singulars PI. First, as Bale & Khanjian (2014) note, bare singulars are number neutral and take low scope, (11). Thus, they fulfill two classic diagnostics for PI.

- (11) Dəgha tji vaze-ts
 boy.SG NEG ran-PST.3SG
 ‘(One or more) boys did not ran’ ($\neg > \exists$, $*\exists > \neg$) (WA, Bale & Khanjian 2014: 2)

Another way in which bare singulars deviate from full argumental DPs is in their inability to bear Dative case. Animate objects in WA are marked Dative (Differential Object Marking (DOM), see Khanjian (2013)); contrast (12) with (13):

- (12) John-ə manug-i-n tasdiarege-ts
 John-DEF child-DAT-DEF educate-PST.3SG

‘John educated the (unique) child’

- (13) ??John-ə manug-ə tasdiarege-ts
John-DEF child-DEF educate-PST.3SG
‘John educated the child’

However, the pattern with bare singulars is the exact opposite, (14)-(15)

- (14) ?*John-ə manug-i tasdiarege-ts
John-DEF child-DAT educate-PST.3SG
‘John educated a child’

- (15) John-ə manug tasdiarege-ts
John-DEF child educate-PST.3SG
‘John educated one or more children’

This is another respect then in which bare singulars do not behave as full arguments, and can be understood if we take bare singulars to Pseudo-Incorporate.

Finally, bare singulars allow adjectival modification⁴:

- (16) jereg, john-ə fantasi kirk gart-a-ts kordz-e-n vertf
yesterday, john-def fantasy book read-th-past work-abl-def after
‘Yesterday, John read fantasy book(s) after work’

This tells us that bare singulars are at least NPs. So, bare singulars in WA lack properties that syntactically present full arguments have, while being phrasal in nature. This leads us to the conclusion that they undergo PI.

3.2 Covert Plurals

WA exhibits a class of nominals of the form [Num N_{sg}], e.g. ‘five dog’. Following Sigler (1997) we call these nominals ‘covert plurals’. Covert plurals have the interesting property that they can trigger either singular, (17), or plural agreement, (18), on the verb.

- | | | | |
|------|---|------|---|
| (17) | jerek afagerd inga-v
three student fall-PST-3SG
‘Three students fell’ | (18) | jerek afagerd inga-n
three student fall-PST-3PL
‘Three students fell’ |
|------|---|------|---|

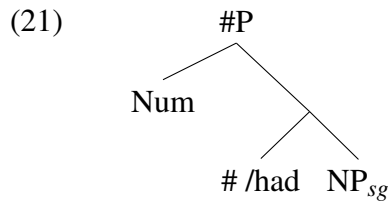
Moreover, covert plurals can appear either with or without a classifier intervening between the numeral and the noun:

⁴ Although see subsection 3.3 for more on this.

(19) jerek afagerd
 three student
 ‘Three students’

(20) jerek had afagerd
 three CLF student
 ‘Three students’

Given this alternation, we will take the structure of covert plurals always include a classifier, either overt (‘had’) or covert (#) (see Kalomoiros (2021) for more justification of this structure):



Here we focus on covert plurals that are either in object position, or in subject position but trigger singular agreement (non-agreement).⁵ Importantly for our purposes, these nominals show all the hallmarks of PI, but they fundamentally denote object-level properties.

First, covert plurals take obligatory low scope:

(22) jerek afagerd tʃ-inga-v
 three student NEG-fall-PST.3SG
 ‘Three students did not fall’ ($\neg > \exists$, $*\exists > \neg$)

Number neutrality is not a viable test in the case of covert plurals, as they contain a specific numeral. Nonetheless, covert plurals in object position pass the Dative marking test: In object position, they cannot bear Dative case:

(23) John-ə harujr had zinvor mert-uts
 John-DEF 100 CLF soldier killed.PST.3SG
 ‘John killed 100 soldiers’

(24) *John-ə harujr had zinvor-i mert-uts
 John-DEF 100 CLF soldier-*DAT killed.PST.3SG
 ‘John killed 100 soldiers’

Thus, covert plurals pattern with bare singulars with respect to the PI diagnostics; hence we conclude that they also PI. Crucially, ‘100 soldier’ in (23) refers to a hundred individual soldiers, **not** a hundred different types of soldiers. Therefore, PI in WA is able to target at least object-level properties.

⁵ Although see section 5.4 for some comments on agreeing covert plurals.

3.3 Modification

We now test the modification possibilities of PI-ed NPs in WA across the different PI constructions we have encountered so far.⁶ It will turn out that all nominals that undergo PI in WA can only be modified by kind-level adjectives.

We first look at bare singulars in object position:

- (25) a. **Context:** *John has an avid interest in science, and he has a large collection of scientific books, which he sometimes reads after work.*
 b. jereg, John-ə kidagan kirk garta-ts kordz-e-n
 yesterday, John-DEF scientific book read-PST.3SG work-ABL-DEF
 vertʃ
 after
 ‘Yesterday, John read scientific book(s) after work’

Examples (25-b) show that it is possible to modify a bare singular with kind-level adjectives, since ‘scientific book’ establishes a type of books (the context also helps here construe the adjective in its type-establishing function by describing the types of books that John has a habit of reading).

Consider now an object-level adjective like ‘old’ in the same environment:

- (26) a. **Context:** *John really likes reading old books because he likes the feeling of aged paper in his fingers.*
 b. #jereg, John-ə hin kirk gart-a-ts kordz-e-n vertʃ
 yesterday, John-DEF old book read-PST.3SG work-ABL-DEF after
 ‘Yesterday, John read old book(s) after work’

The context here is meant to privilege the object-level meaning of ‘old’, i.e. something that applies to concrete particulars (hence the part about ‘aged pages’). The judgment about (26-b) is that it is grammatical. However, it is felicitous in an environment where the context makes ‘old books’ stand out by attributing some special characteristic to them: for instance, my consultant mentioned a context where we are talking about books from the 1700s because they look so different. One way of understanding this judgment is that the context needs to make a certain **type** of ‘old books’ salient, e.g. books that were published in the 1700s.

These judgments about bare singulars are replicated in environments with covert plurals. All the examples below are meant to be uttered in a context where someone asks the question ‘What happened?’:

⁶ Sağ (2019) also looks at the modification in WA. However she only looks at examples similar to (25) - (26). Here we extend the coverage to covert plurals. Furthermore, the analysis we propose of these facts is very different from the analysis in Sağ (2019, 2021).

- (27) a. **Context:** *We have European and African soldiers.*
 b. hink jevropagan zinvor merts-ve-ts-av
 5 European solder kill-PASS-AOR-PST.3SG
 ‘Five European soldiers were killed’
 c. #hink anoti zinvor merts-ve-ts-av
 5 hungry solder kill-PASS-AOR-PST.3SG
 ‘Five hungry soldiers were killed’

Again, the sentence with the kind-level adjective, (27-b), is fine. But, the sentence with ‘hungry’ is judged grammatical although somewhat infelicitous. It is felt to be best in a context where the type of ‘hungry soldier’ is relevant:

- (28) a. **Context:** *We have a roster of hungry soldiers.*
 b. hink anoti zinvor merts-ve-ts-av
 5 hungry solder kill-PASS-AOR-PST.3SG
 ‘Five hungry soldiers were killed’

The version of (27-c) with an overt classifier, (29) is fine without the need for supporting context:

- (29) hink had anoti zinvor merts-ve-ts-av
 5 CLF hungry soldier kill-PASS-AOR-PST.3SG
 ‘Five hungry soldiers were killed’

This highlights what my consultant expressed as the intuitive function of the classifier: to make the atoms that constitute the covert plurality more salient.

We can summarize the patterns in the two generalizations below:

- (30) **Generalization 1:** Bare singulars, and covert plurals modified by kind level adjectives are felicitous in an out-of-the-blue context.
 (31) **Generalization 2:** Bare singulars, and covert plurals that are modified by an object level adjective are felicitous only if the context establishes the relevant subkind. Covert plurals with an overt classifier are fine in an out-of-the-blue context regardless of adjective type.

4 Analytical Options

The WA patterns cannot be accommodated by the ‘ambiguous singular + PI of object-level properties’ approach nor by the ‘ambiguous singular + PI of kinds’ approach. The first fails because it does not predict the restriction that only kind-level adjectives modify a PI-ed nominal. The second fails because it does not allow for PI of object-level properties; but as we have seen PI-ed covert plurals in WA are

object-level.

At this point, it's worth disentangling the various parameters involved in these analyses and seeing which combinations of these parameters has a fair chance of accounting for the WA data. The first parameter is what the bare singular can denote: object-level properties, kind level properties or both? The second parameter is what PIs: object-level properties, kind-level properties, or both?

We saw that an analysis that lets the singular be ambiguous between an object-level and a kind-level denotation has to restrict PI to just kinds in order to account for the modification facts. But this is incompatible with the fact that PI in WA can happen with object-level denoting nominals. Therefore, let's consider an analysis that does not constrain PI to either object-level or kind-level denotations, but rather restricts the denotation of the singular.

If the bare singular denotes only in the object-level domain, then we would expect that PI-ed bare singulars should be modified **only** by object-level adjectives, never by kind-level ones. This is not the case in WA.

If on the other hand the denotation of the bare singular is restricted to just kind-level objects, then the modification restriction in the case of PI-ing bare singulars is expected. This also accounts for the modification restriction in the case of covert plurals, since the singular in a covert plural will always enter the derivation as denoting something kind-related, and therefore will not accept modification by object-level adjectives. The challenge then is to explain how the kind denoted by the bare singular ends up being instantiated, thus denoting object-level entities by the time the bare singular has been turned into a covert plural. We turn now to an analysis that is designed to do exactly this.

5 Analysis

5.1 Bare Singulars

We will take bare singulars to refer unambiguously to properties of taxonomic individuals. We will continue to think of taxonomic individuals as groups. PI will modelled more in the spirit of [Chung & Ladusaw \(2004\)](#)'s Restrict operation, and will be broken into three steps:

- i. Restriction
- ii. Sort adjustments (if necessary)
- iii. Existential Closure

Restriction is a generalized version of Predicate Modification ([Heim & Kratzer \(1998\)](#)):

- (32) **Restriction:** If α is branching node, and $\{\beta, \gamma\}$ the set of its daughters, where $\llbracket \beta \rrbracket = \lambda x. P(x)$ and $\llbracket \gamma \rrbracket = \lambda x_1 \dots \lambda x_n. Q(x_1, \dots, x_n)$, then $\llbracket \alpha \rrbracket = \lambda x_1 \dots \lambda x_n. Q(x_1, \dots, x_n) \wedge P(x_1)$ (all $x, x_1 \dots x_n$ range over elements of type e).

The exact workings of what we have in mind will become clearer if we look at an example. Consider a simple sentence like:

- (33) John- \ominus kirk garta-ts
 John-DEF book read-PST.3SG
 ‘John read one or more books’

(34) $\llbracket book \rrbracket = \lambda x. x = BOOK$

(35) $\llbracket read \rrbracket = \lambda x. \lambda y. read'(y)(x)$

We want ‘book’ to PI into ‘read’. The first step is to apply Restriction. This just means restricting the first argument of ‘read’ to things that are equal to the taxonomic entity *BOOK*:

(36) $\llbracket book read \rrbracket = \lambda x. \lambda y. read'(y)(x) \wedge x = BOOK$

Now we are faced with a sort problem: ‘read’ demands object-level arguments, while in (38) the first argument of read has been identified with a taxonomic entity. To solve this, we introduce a sort adjustment rule defined over the kinds denoted by singular kind terms. We call this ‘Derived Singular Kind Predication’ (DSKP) (cf. Derived Kind Predication (DKP) in Chierchia (1998)):

- (37) **DSKP:** Let F be a function of the form $\lambda x_1 \dots \lambda x_n. \alpha$, defined on object-level entities and where α is some formula. Let k be a singular kind. Then, restricting x_i ($1 \leq i \leq n$) to k , i.e. $\lambda x_1 \dots \lambda x_i \dots \lambda x_n. \alpha \wedge x_i = k$, is equivalent to restricting x_i to the instantiations of k , i.e. $\lambda x_1 \dots \lambda x_i \dots \lambda x_n. \alpha \wedge belong - to(x_i, k)$

Applying (37) to (36), we get:

(38) $\llbracket book read \rrbracket = \lambda x. \lambda y. read'(y)(x) \wedge belong - to'(x, BOOK)$

The next step is to existentially close the argument that underwent restriction:

(39) $\llbracket book read \rrbracket = \lambda y. \exists x[read'(y)(x) \wedge belong - to'(x, BOOK)]$

Taking $\llbracket John \rrbracket = j$, we thus get the final truth conditions in (40) below:

(40) $\exists x[read'(j)(x) \wedge belong - to'(x, BOOK)]$

Thus, (33) is true iff there something that is a member of the *BOOK* taxonomic individual (i.e. it is one or more books) and John read this. These are the correct truth conditions. Moreover, notice that since Existential Closure is introduced right after Restriction has occurred, this will ensure low scope with respect to operators like negation.

Now consider again the case of (41):

- (41) #jereg, john-ə hin kirk garta-ts kordz-e-n vertʃ
 yesterday, John-DEF old book read-PST.3SG work-ABL-DEF after
 ‘Yesterday, John read old book(s) after work’

This has the following structure:

- (42) [[John] [VP [[old] [book]] [read]]]

Since, $\llbracket book \rrbracket$ denotes a set of taxonomic individuals, the only way for $\llbracket old \rrbracket$ to combine with $\llbracket book \rrbracket$ is for it to denote taxonomic individuals that are old, $\llbracket old \rrbracket = \{OLD BOOK, OLD STATUE, OLD WOOD, \dots\}$, and $\llbracket book \rrbracket$ will denote in the taxonomic level of ‘subtypes of books’. Thus, $\llbracket old book \rrbracket = \{OLD BOOK\}$. Then, the PI mechanism we outlined above takes over and by applying DSKP and Existential Closure, gives us the following truth conditions for (42):

- (43) $\exists x[read'(j)(x) \wedge belong - to'(x, OLD BOOK)]$

We explain the infelicity of (41) by positing the following principle:

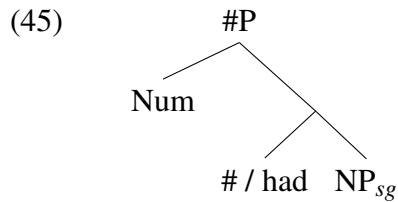
- (44) **Instantiation Principle:** DSKP incurs a cost when used to instantiate non-well-established kinds that have no contextual support.

Unmodified bare singulars like $\llbracket book \rrbracket$ denote well-established kinds. The same holds with well-established subkinds like $\llbracket scientific book \rrbracket$. Therefore, establishing a *belong – to'* relation between these kinds and their instantiations via DSKP in a PI configuration carries no cost. Conversely, $\llbracket old book \rrbracket$ is not well-established without contextual support. Therefore, establishing the *belong – to'* relation requires conceptualizing $\llbracket old book \rrbracket$ as a subkind and instantiating it via DSKP. This is costly, hence the infelicity.

Thus, we have an analysis that can handle PI of bare singulars and explain why object-level adjectives like ‘old’ require contextual licensing. We now turn to extending the analysis to handle the data from covert plurals.

5.2 Covert Plurals

Recall that a covert plural was argued to have the following structure:



We showed that covert plurals denote object level properties. Since we take the denotation of the bare singular to be a set of kinds, at some point between NP_{sg} and $\#P$, we need to get from a property of kinds to a property of objects. The only viable candidate for such a job is the classifier head.

Recall the relevant generalization from section 3.3:

- (46) **Generalization 2:** Covert plurals that are modified by an object level adjective are felicitous only if the context establishes the relevant subkind. Covert plurals with an overt classifier are fine in an out-of-the-blue context regardless of adjective type.

We can carry the same line of reasoning behind the Instantiation Principle to the domain of covert plurals if we assume that the overt and the covert classifier differ in their semantics in the following way (we take numerals to denote natural numbers, type d):

$$(47) \quad \llbracket \# \rrbracket = \lambda P_{et}. \lambda n_d. \lambda x_e. P(x) \wedge |x| = n$$

$$(48) \quad \llbracket had \rrbracket = \lambda P_{et}. \lambda n_d. \lambda x_e. \text{belong} - to'(x, \iota y P(y)) \wedge |x| = n$$

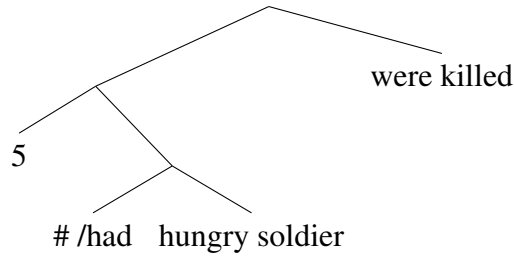
The effect of these lexical entries is that $\llbracket \# \rrbracket$ will trigger DSKP, whereas $\llbracket had \rrbracket$ will never trigger DSKP. Let's work through an example to see this:

- (49) #hink anoti zinvor merts-ve-ts-av
 five hungry soldier kill-PASS-AOR-PST.3SG
 '5 hungry soldiers were killed'

- (50) hink had anoti zinvor merts-ve-ts-av
 five CLF hungry soldier kill-PASS-AOR-PST.3SG
 '5 hungry soldiers were killed'

Here are the LFs for (49) and (50) respectively:

- (51)



In both cases, the NP is $\llbracket hungry\ soldier \rrbracket$. We assume that the adjective will be forced to denote on the taxonomic level, so ‘hungry soldier’ will denote the singleton set containing the subkind *HUNGRY SOLDIER*: $\lambda x. x = HUNGRY SOLDIER$. When the classifier is covert, this will combine with $\llbracket \# \rrbracket$:

$$(52) \quad \llbracket \# \rrbracket (\lambda x. x = HUNGRY SOLDIER) = \lambda n. \lambda x. x = HUNGRY SOLDIER \wedge |x| = n$$

Which, combining with the numeral will yield:

$$(53) \quad \lambda x. x = HUNGRY SOLDIER \wedge |x| = 5$$

$|x|$ is a unary function that takes an object level entity and counts the number of its atomic parts. But x in this case is a kind-level individual that offers no access to its parts. Therefore, we apply DSKP to resolve this type-clash and get:

$$(54) \quad \lambda x. belong - to(x, HUNGRY SOLDIER) \wedge |x| = 5$$

This is the set of instantiations of the type *HUNGRY SOLDIER* that consist of 5 individual hungry soldiers, i.e the set of hungry soldiers that have 5 members. Hence it’s the correct meaning. But because we had to apply DSKP to get it, the Instantiation Principle incurs a cost, unless the context gives support to the type of ‘hungry soldier’.

This then combines with the verb via restriction. Finally, existential closure applies, yielding:

$$(55) \quad \exists x [was - killed'(x) \wedge belong - to(x, HUNGRY SOLDIER) \wedge |x| = 5]$$

Now consider the version with the classifier. We start again by combining $\lambda x. x = HUNGRY SOLDIER$ with the classifier:

$$(56) \quad \llbracket had \rrbracket (\lambda x. x = HUNGRY SOLDIER) = \lambda n. \lambda x. belong - to'(x, HUNGRY SOLDIER) \wedge |x| = n$$

Combining this with the numeral, and doing Restriction gives us:

(57) $\lambda x.was - killed'(x) \wedge belong - to'(x, HUNGRY SOLDIER) \wedge |x| = 5$

Notice, that DSKP does not apply here because the classifier establishes the *belong – to'* relation directly. Since DSKP is not used, no cost is incurred by the Instantiation Principle. Thus, the way we have set up our theory derives the following result: Modification of a bare singular by a kind-level adjective is infelicitous just in case DSKP needs to apply in a context that does not support the relevant subkind. By penalising this via the Instantiation Principle we capture the data.

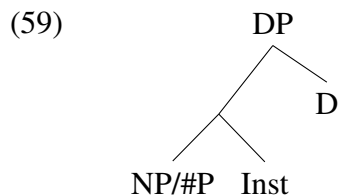
5.3 Definites

We have developed a theory where the bare singular in WA unambiguously denotes a property of kinds. Nevertheless, consider the following paradigm:

- (58) (WA, Khanjian 2013: 27, 30)
- a. ahramorez-*(ə) pənatʃəntʃəvadz e
dinosaur-*(DEF) extinct is
'The dinosaur is extinct' (kind level)
 - b. kirk-ə kəda
book-DEF found.PFV.1SG
'I found the book' (object level)

Bare singulars being properties of kinds explains (58-a). But it predicts that (58-b) should mean that 'I found the taxonomic individual BOOK'. Therefore, our theory of definites in WA needs to be complicated to account for (58-b).

We need a head that will combine with a property of kinds and will return its instantiations. Thus, we postulate a separate head, *Inst* (for Instantiator), that occupies the space between NP/#P and D, and is responsible for instantiating a kind, (59):



The denotation of *Inst* will be a function that takes a property P and returns the set of instantiations of the maximal kind:

(60) $\llbracket Inst \rrbracket = \lambda P_{et}.\{x | belong - to'(x, \iota yP(y))\}$

One might wonder at this point how we ensure that an object-level definite will

necessarily be formed via the mediation of this *Inst* head, e.g. in (58-b). Why can't it be the case that the definite article combines with the bare singular, chooses the maximal kind in that denotation, then combines via function application with the verb, and finally DSKP is invoked to take us to the object-level denotation in case the verb only accepts object-level arguments? This would lead to the wrong prediction that an object-level definite should be number neutral, so something in our system must block it.

The reason this is not available is that DSKP is defined to apply to cases where an argument position is restricted, **not saturated** (see (37)). In the case where we try to merge a DP without *Inst* as the object of an object-level verb, the composition proceeds via garden-variety function application, not via PI (i.e. Restriction). This saturates the argument position. The only way for the derivation to converge interpretationally is to merge the *Inst* head. Thus, we account for the fact that definite singulars in WA can be both kind- and object-denoting depending on the verb.

5.4 Agreeing Covert Plurals

A question that arises once we have a principle like DSKP doing the heavy-lifting in the process of PI is whether there are other positions, besides object position, where we can see the effects of such an operation.⁷ Crucially, DSKP is not defined in a way that limits it positionally. So, we expect to be able to see a version of PI which can occur away from the verb (i.e. outside the VP), in some subject position. Given that bare singulars in WA are NPs, they are too small to be able to raise out of the VP, so they cannot provide us with the structure we need to test this. However, covert plurals can be outside the VP in the case where they exhibit full plural agreement with the verb. The strongest evidence comes from the fact that they take obligatory high scope:

- (61) jerek had afagerd pos-i-n metʃ tʃ-inga-n
 three CLF student hole-GEN-DEF in NEG-fell-PST.3PL
 'Three students did not fall in a hole' (* $\neg > \exists$, $\exists > \neg$).

These covert plurals are arguably in [Spec, TP] (Kalomoiros 2021) and provide us with a way with evaluating whether or not we can see the effects of DSKP in positions outside of the VP. The prediction is that these nominals should reject object-level modification without the classifier, since they essentially combine with the verb via Restrict and DSKP (only this happens higher in the tree compared to classic cases of PI). This is borne out:

⁷ Thanks to Yağmur Sağ for bringing this issue to my attention.

- (62) ??hink anoti zinvor merts-ve-ts-an
 five hungry soldier kill-PASS-AOR-PST.3PL
 ‘5 hungry soldiers were killed’

Once the classifier is added, any weirdness disappears as expected:

- (63) hink had anoti zinvor merts-ve-ts-an
 five CLF hungry soldier kill-PASS-AOR-PST.3PL
 ‘5 hungry soldiers were killed’

One wrinkle in this picture is that the felicity of (62) does not improve when embedded in a context that supports the type of ‘hungry soldier’ (cf. (28-b)). This is unexpected since we have taken any DSKP-associated costs to be modulated by contextual support. According to our consultant, one issue here is that the combination of object-level adjective plus bare singular initially pushes ‘5 hungry soldier’ towards a non-specific interpretation, but then the plural agreement on the verb pushes towards a specific interpretation, thus creating a conflict (see Sigler (1997); Kalomoiros (2021) for more on the specificity that plural agreement enforces). While more research is required here, the fact that ‘5 hungry soldier’ is pushed towards a non-specific interpretation in this case is fully compatible with the idea that DSKP applies: DSKP returns all of the instantiations of a kind, not just specific ones. Therefore, this data offers some tentative support to the idea that PI (and by extension DSKP) is not positionally restricted.

6 Conclusion

In this paper, we have argued that the bare singular in WA denotes unambiguously a property of singular kinds. The main argument came from the fact that, like Turkish, WA allows for PI of bare singulars which resist modification by kind-level adjectives. Crucially though, accounting for this by keeping the singular ambiguous between an object- and a kind-level property is not an option (unlike Turkish, Sağ (2021)); WA allows covert plurals to PI, and covert plurals clearly denote object-level properties (while at the same time also resisting object-level modification when not accompanied by a classifier). We have built an account of these patterns by taking PI to be unrestricted, and restricting the denotation of the bare singular to properties of kinds. As part of the PI process, a sort-adjusting operation, dubbed DSKP, instantiates the kind denoted by the bare singular when object-level predicates apply to it. This operation comes with contextual costs, which accounts for the felicity patterns of PI-ing bare singulars and classifier-less covert plurals. In cases where there are no infelicities, DSKP does not apply, and the kind is instantiated via other means (i.e, the classifier), thus avoiding any contextual penalties.

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